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ABSTRACT

The aim of this booklet is to stimulate informed discussion about the development of open-plan primary schools in Scotland. Background information is provided that focuses on the development of the design and construction of an early (1969) open-plan facility -- the Kirkhill Primary School in Broxburn. How education authorities learned from their implementation of open-plan designs is indicated in discussions of Milltimber School in Aberdeenshire and other open-plan schools. Descriptions of three primary schools that vary in their design and internal organization (the Dean Park School in Balerno, Milltimber in Aberdeenshire, and Trinity in Hawick) are provided. Milltimber and Dean Park are both modern open-plan primary schools that were built to purpose. Trinity School, built in 1934, is a structure that now has a redesigned and radically altered interior. Teachers' accounts of their experiences in the buildings are included in the discussion. The author emphasizes that the booklet is not intended to be a formal research report. (Author/RH)

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# Space for learning

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*The Scottish Council for Research in Education.*

# *Space for learning*

*Teaching and learning in some Scottish open-plan primary schools.*

***Malcolm Corrie***

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2



# *Preface*

This booklet is part of the service of information to teachers and administrators provided by the Scottish Council for Research in Education. It is not intended as a formal research report, since the main aim is to stimulate informed discussion about the development of open-plan primary schools in Scotland.

The Scottish Council for Research in Education is most grateful to the teachers, heads, primary advisers, HM Inspectors and college of education staff who provided willing and knowledgeable help at all times in the preparation of this booklet. Thanks are due in particular to the head teachers and staff of Dean Park, Milltimber and Trinity primary schools.

# Background

It is tempting to begin by trying to define the term ' open-plan ' as it is applied to Scottish primary schools. But this would add to existing definitions and simply create more confusion than clarity. The variety of open-plan schools and the different educational and organisational arrangements which they are developing suggests also that a definition might be premature and thus have a short life-span. Indeed, there might be some opposition to a definition which tried, at this stage, to be too precise. The resistance is understandable. It arises from a feeling that definitions are sometimes labels in disguise which serve to obscure complex issues and even possibly to promote fresh orthodoxies. Moreover, a definition of ' open-plan ' might tend to be expressed largely in architectural terms. This would of course be useful but it would also be limiting, the point being that school architecture is essentially a means to educational ends, rather than an end in itself.

This relationship between school design and educational activity is increasingly recognised by architects and teachers. The development of Scottish open-plan primary schools clearly illustrates this relationship. The memorandum, *Primary Education in Scotland*, published in 1965 by the Scottish Education Department advocated that a more flexible child-centred approach should be adopted towards the organisation of the curriculum and methods of teaching. It was believed, however, that this approach could not easily be implemented in the older schools built on traditional ' egg-crate ' lines. As a result of planning by a Joint Development Team of architects and educationalists from the Scottish Education Department and West Lothian Education Authority, a prototype school, Kirkhill, was built at Broxburn.[1]

Kirkhill school was designed and constructed in order specifically to show how the principles set out in the memorandum might be applied within the primary school building cost limits then operating. It should be

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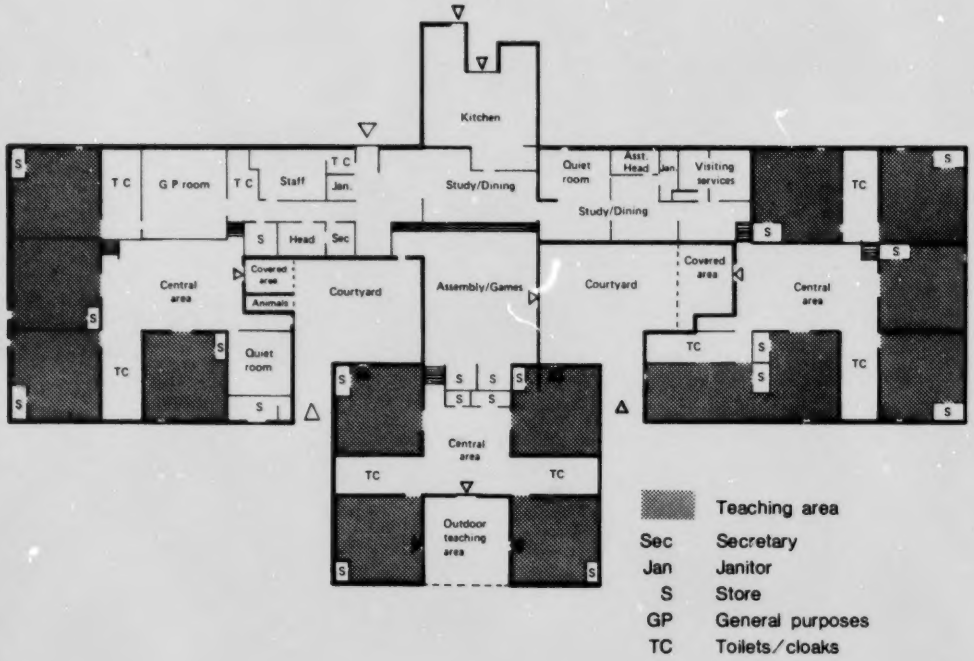
1 *Educational Building Notes No 8, Kirkhill Primary School, Broxburn. A Development Project.* (Scottish Education Department, 1970)




**KIRKHILL PRIMARY SCHOOL**

4

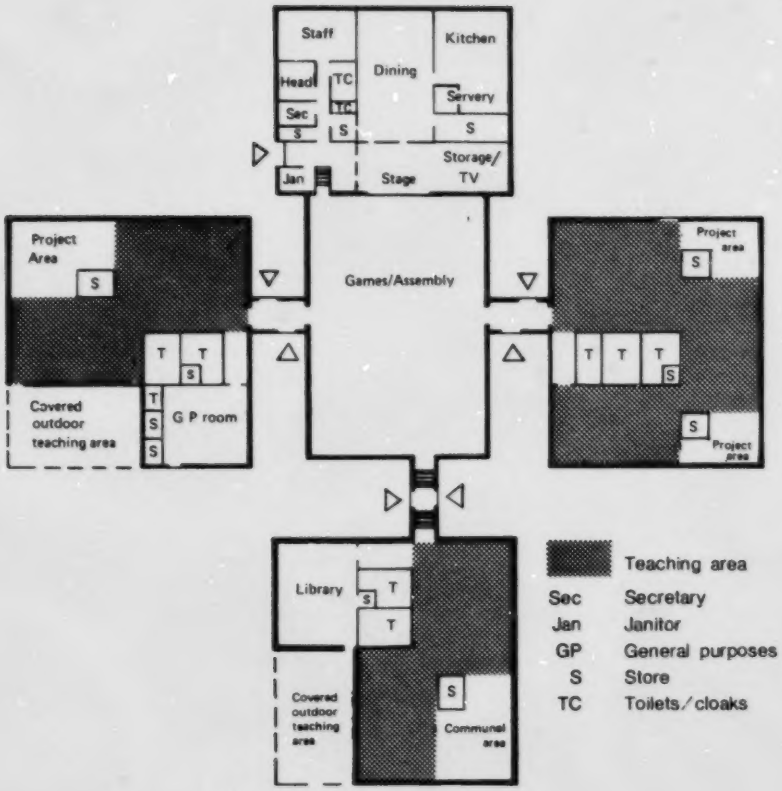
explained that regulations require the provision in any school of a specified minimum area for educational purposes. In a situation where building costs rise faster than official cost limits, one way of achieving economies and of meeting the regulations is to reduce the amount of space used solely for non-educational purposes. This can be done by incorporating open areas which can be shared by several groups for activities where through traffic causes little or no inconvenience. A major characteristic of open-plan schools in fact is that a very high proportion of space is used for educational activities with very little space allocated for circulation.

The design of Kirkhill demonstrates these points. The plan, shown on this page, basically comprises three clusters of classrooms, each cluster being designated for a different age-range. Within each cluster there is a series of classrooms each with doors slightly wider than normal. These classrooms lead on to a central area shared by all the children and teachers in the cluster. This central area is used for a range of different activities. Together with the open courtyards, covered outdoor teaching areas and the study/dining areas, the shared central area represents a movement towards a greater degree of ' openness ' of design. Almost three-quarters of the total area of the school is available to be used for educational purposes, less than one-tenth being used solely for circulation.

It will be noted however that the basic unit of construction in the Kirkhill design remains the enclosed classroom. Only the P1 children — about 60 to 70 — are taught in the same area, that is, two classrooms with the inner wall ' removed '. By the standards of 1974, the design of Kirkhill school might well be thought relatively conservative, although it remains an interesting example of the early development of open-plan layouts in Scottish primary schools.

Since Kirkhill was opened, in 1969, a number of other schools incorporating open-plan features have been brought into use in different parts of Scotland. In most cases these have been purpose-built, but a few of the schools are the result of considerable modifications having been made to an existing building, often an old and unsatisfactory one. Open-plan schools, whether purpose-built or converted, are a small but growing minority of all Scottish primary schools. It is not known exactly how many schools of this type are in existence or are planned, although it is believed that they tend to be concentrated in certain areas.

Several education authorities have been gradually developing different designs in recent years, the lessons learned from one design being applied in the next. An example of this evolutionary approach can




**MILLTIMBER PRIMARY SCHOOL**



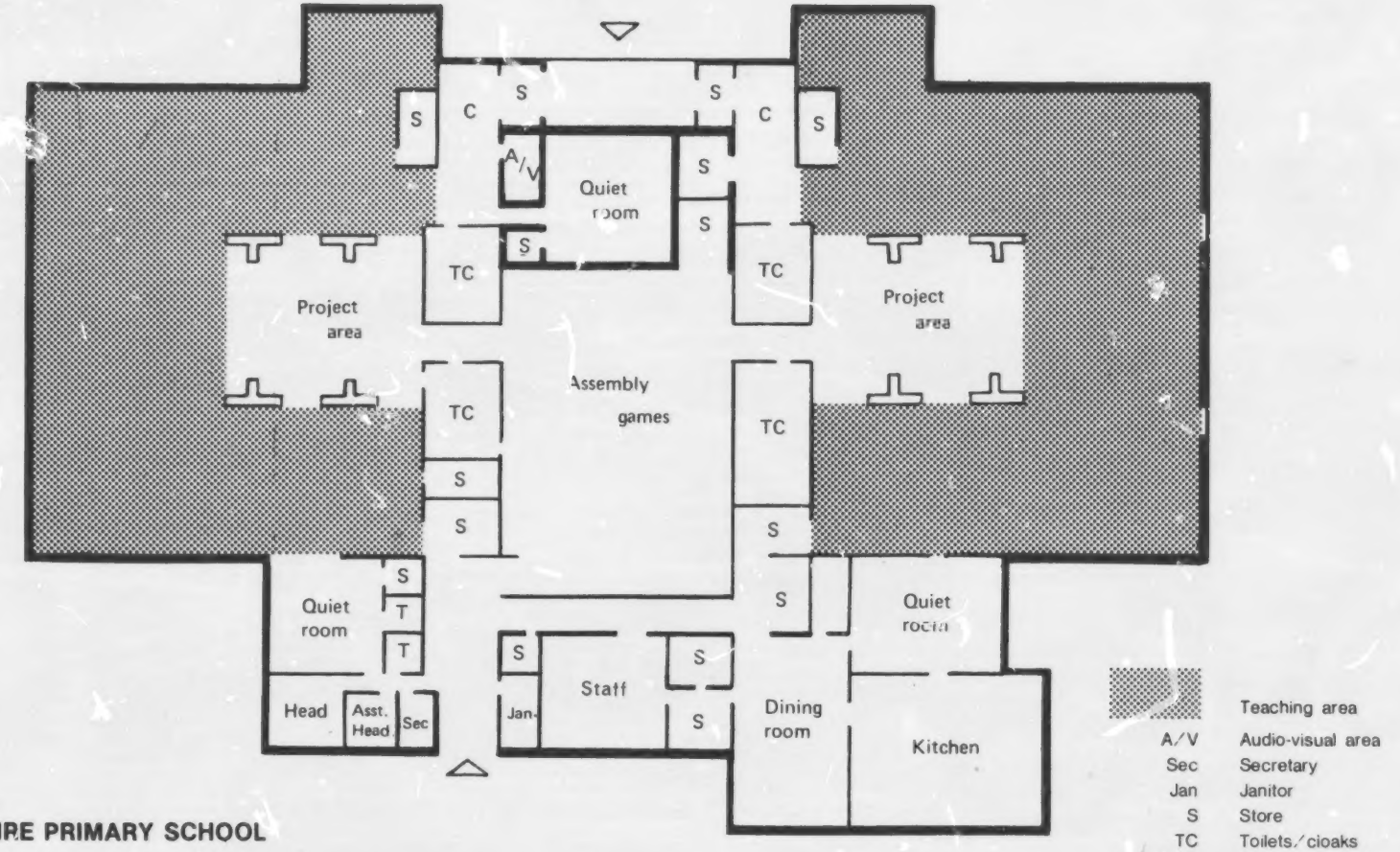


be found in Aberdeenshire. The first stage in the development of the Aberdeenshire open-plan primary schools came about five years ago when three schools were built very similar in design to Kirkhill, being based on the idea of clusters of separate classrooms with access to a communal central area. A small part of each classroom was also tiled and fitted for painting and other craft work. At the second stage, about a year later, a further three schools were opened. This time the clusters were opened up to the extent that, although each group had its own teaching area, this area was not separated from the others by walls. The term ' cluster ' was in fact no longer an accurate description of the accommodation and was replaced by ' units '. Certain facilities within the unit were shared, such as project areas and toilets. Milltimber school, a plan of which is shown on this page, is an example of this stage.

The third development was to reduce the number of units from three to two. Three schools were built to this design, each unit handling about 150 children, drawn from P1-P4 and P5-P7 respectively. Within the units there were no walls, merely three large teaching areas and a communal project area. The project area was increased in size as it had been at the second stage. As a result of experience gained in the earlier schools extra provision was made in the form of walled rooms, so that noisy activities could take place without disturbance to others, or alternatively, activities needing quietness could be pursued. Some of these rooms were specially equipped for audio-visual teaching media. An example of this type of school is shown on page 6.

The fourth and most recent development has been the opening of two large primary complexes on the outskirts of Aberdeen itself. These comprise, in the case of one of these complexes, four units each containing about 300 children from P1 up to P7. Each unit thus virtually represents a separate school, so that in effect there are four schools sharing the same site. There are practically no fixed divisions within the units. Apart from a central audio-visual room, two quiet rooms and various project areas, the rest of the space is open. A central core unit is linked to each teaching unit. This, in addition to housing the usual administrative offices and staff rooms, contains a well-equipped resource centre, community centre, conference room, assembly/dining hall, exhibition area, ' under-fives ' area, and a swimming pool for training purposes.

The Aberdeenshire approach is perhaps striking in the way in which the schools have become progressively more open in design and more flexible in use, together with a recognition that schools can be multi-purpose buildings for the benefit of the community as a whole. Several

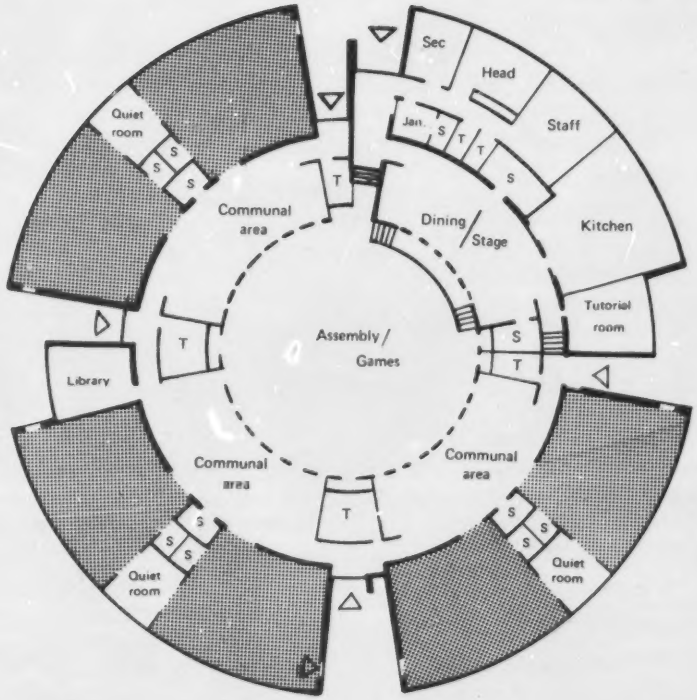


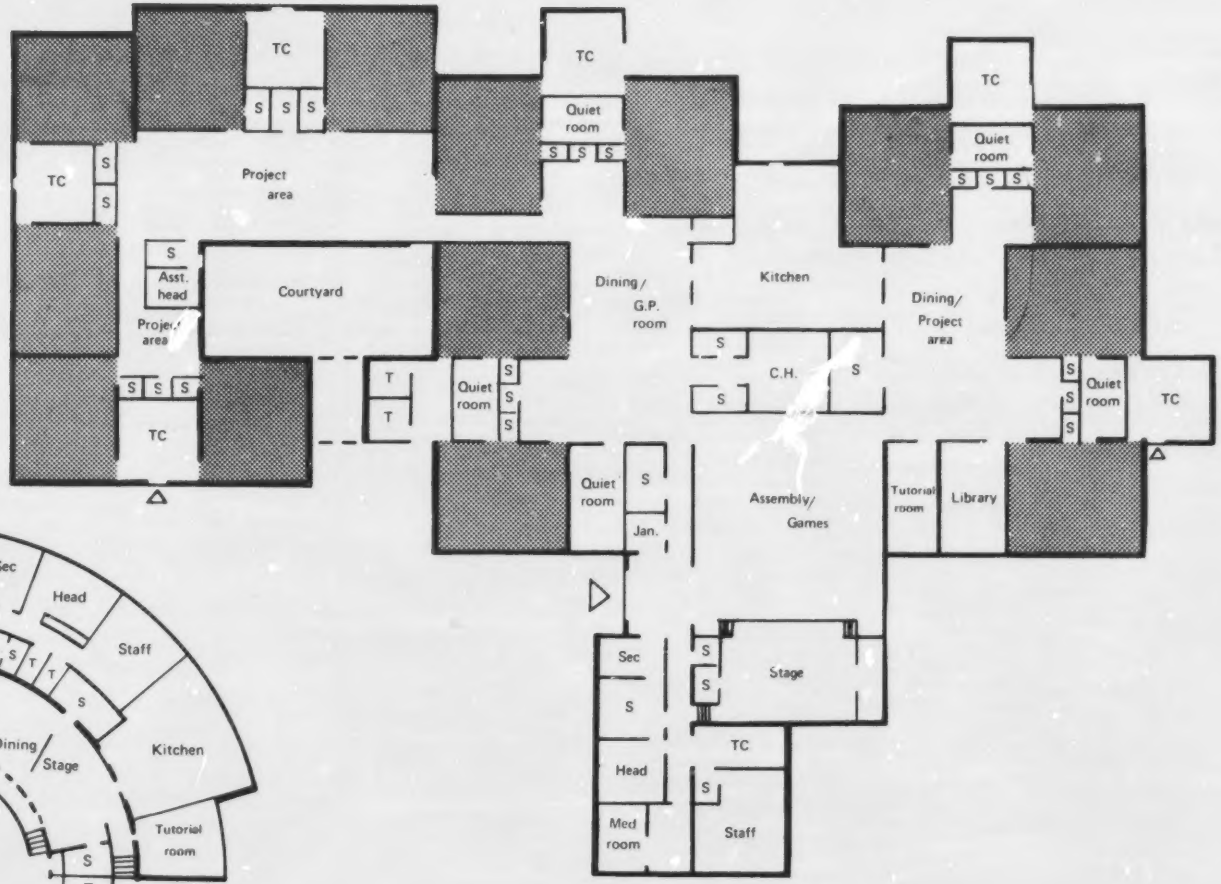

**ABERDEENSHIRE PRIMARY SCHOOL**

other authorities have adopted an evolutionary strategy, though not necessarily along the Aberdeenshire pattern.

Some examples of open-plan schools in other parts of Scotland are shown on pages 7 and 8. The design shown on page 7 (right) has been repeated several times in the west of Scotland. It is a CLASP design, the authority concerned being a member of the Consortium of Local Authorities for Special Programme. CLASP designs, usually based on prefabricated building systems, have been widely used in the Midlands and the north of England. The only feature significantly different from the Kirkhill plan is that the classrooms are paired into self-contained units with a shared quiet room, project area, toilets, coat and entrance area. A school of this design has a roll of around 560 children.

The circular school on page 7, also in the west, is much smaller, being designed for a total roll of about 200. It is built with traditional

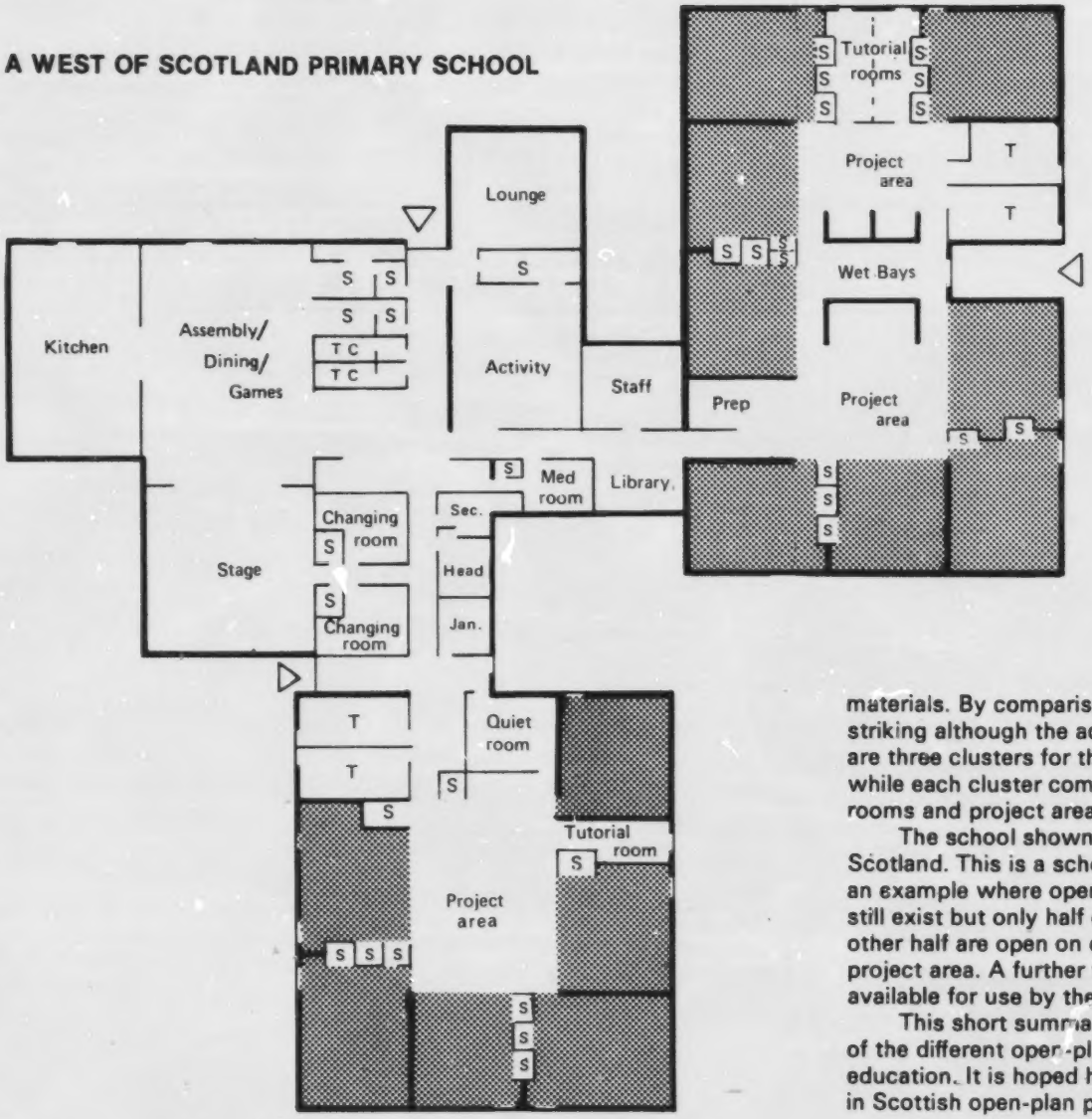



| | |
|---|---|
| | Teaching area |
| Sec | Secretary |
| Jan | Janitor |
| GP | General purposes |
| Med | Medical area |
| S | Store |
| TC | Toilets / cloaks |
| CH | Central heating |

**TWO WEST OF SCOTLAND PRIMARY SCHOOLS**

## A WEST OF SCOTLAND PRIMARY SCHOOL




materials. By comparison with some of the other schools, the design is striking although the actual configuration is similar. As at Kirkhill there are three clusters for the main age-groups, infants, middle and upper, while each cluster comprises the paired classrooms with shared quiet rooms and project areas as in the CLASP design.

The school shown on this page is also located in the west of Scotland. This is a school built to accommodate about 560 children and is an example where openness has been carried a step further. Classrooms still exist but only half of them as the traditional enclosed space. The other half are open on one side forming an extension bay off the adjacent project area. A further feature of this school is the amount of space available for use by the community.

This short summary cannot claim to provide an exhaustive catalogue of the different open-plan features and trends in Scottish primary education. It is hoped however that some of the variety now to be found in Scottish open-plan primary schools will be apparent.

# Teaching and Learning

In the course of preparing this book a number of schools were visited. A more intensive visit was subsequently made to three schools, Dean Park in Midlothian, Milltimber in Aberdeenshire and Trinity in Hawick. These schools vary in their design and internal organisation. Between October and December 1973, one day was spent in each school. It was clearly impossible in a single day to observe everything that was going on, or indeed to meet everyone in a school. It was decided therefore to try to discover how the teachers in these schools described their experiences of working in open-plan situations. During each visit informal discussions were held with different teachers as the opportunity arose, usually in the natural breaks that occur from time to time in the course of teaching. The accounts given by the teachers are contained in the following descriptions of the schools.

**Dean Park School, Balerno**

Balerno is about seven or eight miles west of Edinburgh, well within the commuter belt. It is expanding rapidly as new housing developments are added to the old village. Because of this increase in population the original Balerno school, dating back to the nineteenth century, became severely overcrowded.

Teachers and about 460 children moved into the new school in June 1971. The building was not quite finished but it was thought best to use the remaining two weeks of the summer term to get over the worst of the upheaval. Although life was rather hectic at the time, moving at the end of a session turned out to be a sensible idea because everyone started the following term, prepared to get straight into things.

> "You really have to be working in a building before you can estimate how successful it is going to be,"

said the head teacher. None of the teachers had been to any other open-plan schools, although the head had visited one or two himself. The majority were rather apprehensive about what was going to happen. For example, they were not sure whether to keep the sliding partitions open or closed, nor were they certain about how to use the central areas in each unit. They had never had one of those before, and at first they thought that the central area should be used for display purposes only.

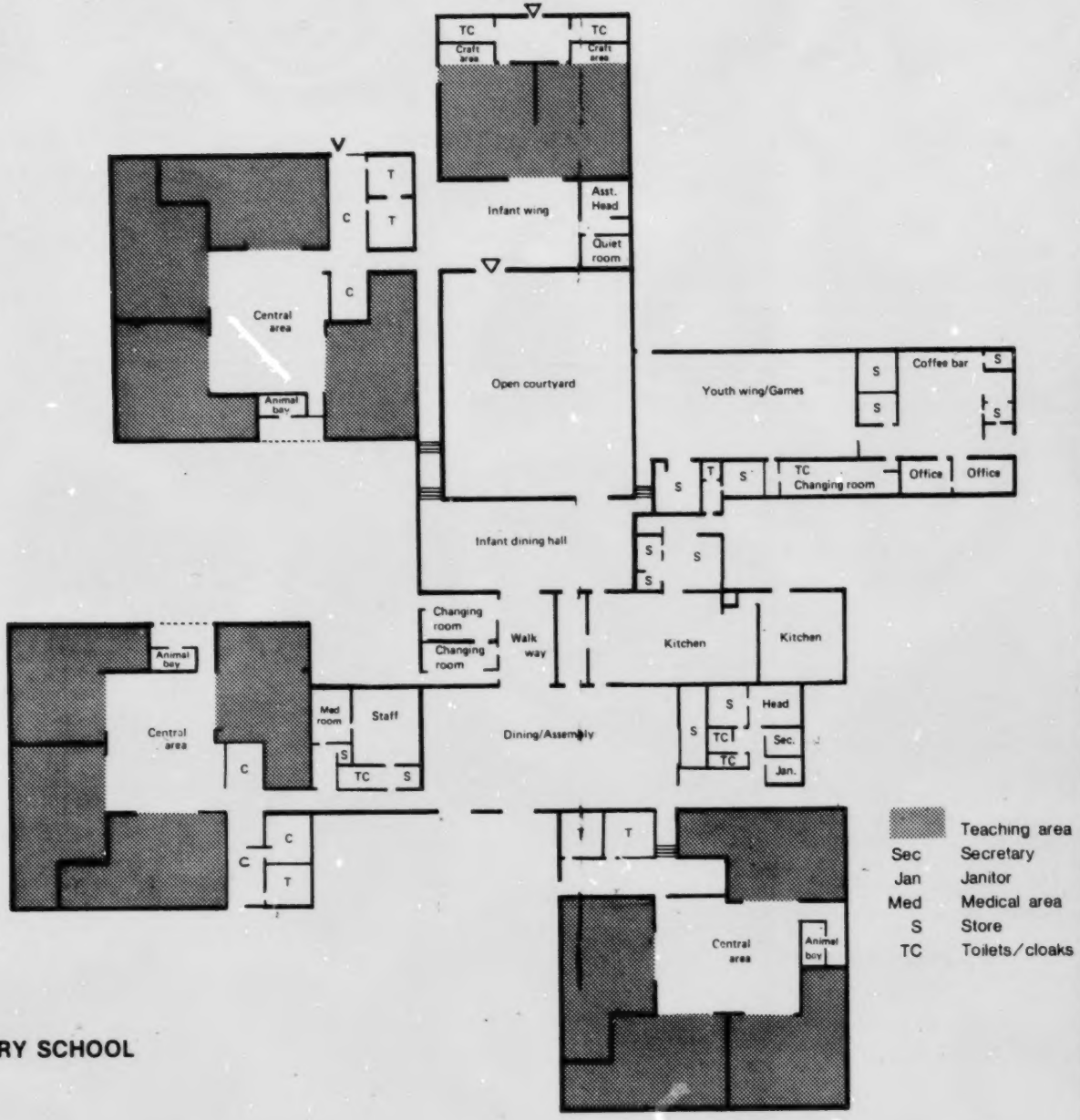
The design of Dean Park school comprises essentially three main teaching clusters linked to each other through a series of administrative and communal areas, such as assembly/dining hall, staff room, offices, etc. In addition, there is a youth wing used by the school for games and PE, and a small coffee bar for community groups using the school in the evenings. The main teaching clusters are almost identical in design, being comprised of four classrooms each having double sinks, benches and cupboards. Each classroom has sliding partitions and leads on to a central area slightly larger than a classroom. There is an animal bay in each unit. Clothes storage and toilets are just outside the entrance to the units. In addition, there is a small infant wing consisting of two teaching areas leading to a third central area although this is now used as a teaching area. The arrangement in the infant wing may be described as semi-open in that a permanent middle wall extends for half the length of the two adjoining teaching areas while sliding partitions are in place for the other half. There is also an infant dining hall, although this is used in practice for an extra class of infants for teaching purposes. The school has its own playing-field and the usual playground.

At present the teaching accommodation is organised as follows:

| | | |
|---|---|---|
| Cluster 1 | P5/P6/P7 | 145 children : 5 teachers |
| Cluster 2 | P4/P5 | 120 children : 4 teachers |
| Cluster 3 | P2/P3 | 145 children : 6 teachers |
| Infant Wing | P1/P2 | 90 children : 4 teachers |
| Infant Dining Hall | P1 | 32 children : 1 teacher |

There are, therefore, twenty teachers, three of whom are assistant heads. There is one assistant head in cluster 1, one in cluster 3 and one in the infant wing. An extra teacher is allocated to the infant wing because it is felt that the younger children need more individual attention. Slightly less than half the teachers who made the original move are still at the school. There are two probationers on the staff.

Since the summer of 1971 the school roll has increased to 529 children, about two-thirds of whom come from a number of private housing developments near the school and most of the rest from new




**DEAN PARK PRIMARY SCHOOL**

10

public sector housing. A small proportion come from the older houses in the village. During the two years since the school first opened the staff have gradually developed a pattern of organisation adapted to the design of the school.

In the first few weeks the head teacher encouraged the teachers to use the central area in each unit as much as possible. He described this process as follows.

> " First, the partitions would be left open, about the width of a door. Then, about a third of the partition would be pushed back and left there. The reason for that is that at the time the TV set stood on a stand in the central area, so that to use it a class either had to come into the area or push it into their own classroom. It was obviously more convenient just to leave the door open. Gradually, people became more adventurous and left the partitions wholly open. This was encouraged, of course.
>
> " We used the central area a lot at first, mainly for craft activities, taking the benches into the area and then setting them up for painting, drawing, needlecraft, etc. The woodwork benches were taken too. But this meant, of course, that when the area was going to be used for a teaching group all the craft equipment had to be dismantled and stacked away again. This wasn't very satisfactory or convenient. Also, the central area doesn't have a sink so that water has to be carried from one of the wet bays in the classrooms."

Each teacher was more or less confined to her own classroom, but she would let some children out into the central area at times for work on assignments and other unsupervised activities. About this time the head and some of the teachers attended an in-service course arranged by the local authority. They found the ideas of the headmistress of an English open-plan primary school particularly interesting, and felt that, though her school was a good deal smaller, some of her methods of organisation could be adapted for Dean Park. The head described what happened.

> " We decided then to designate one of the classrooms in each unit as an art/craft area and another as a quiet room. This enabled us to set up the various tables, benches, etc., permanently near a wet bay. The quiet room was carpeted and ' blocked off ' by closing the partitions and putting a door in. This meant that we now had five areas—an art/craft area, a quiet room and three teaching areas including the central area. In other words we created specialised areas and this meant that we were able to use the central area much more as a teaching area than we had ever done before."

This greater differentiation of the available space was accompanied by a basic change in the way teaching and learning was organised in each cluster. In cluster 1, for example, there were one P5, two P6 and two P7 classes. These have now been reduced to four classes as follows. The P6 and P7 children are now grouped into three classes of 38 children each,





containing about equal numbers from each year group. The P5 children are kept as one class of 31. Each of these four classes is sub-divided into three groups of approximately equal size. These may be ability or social groups according to the preference of the individual teacher. The groups are named teaching group, assignment group and choice group respectively.

Because there are five teachers, including the assistant headteacher in charge of the cluster, and only four classes, it is possible to leave one teacher free from teaching for one day each week. During this day the teacher who is ' free ' supervises assignment groups from all the classes, usually—though not always—working in the central area. The assistant headteacher does not have a class of her own but takes the class of the teacher who is on assignment group duties, although for one day of the week she is on assignments herself. In this way she gets to know all the children in the cluster.

Each group, whether teaching, assignment or choice, spends 45-90 minutes in each activity, at the end of which time it moves on to another. The length of time varies because specialist teachers and broadcasts have to be fitted in. The teaching group spends the time with the teacher, being instructed in basic skills such as mathematics or language. Sometimes this involves direct teaching to the whole group around a blackboard, at other times the group is sub-divided further so that different activities can be undertaken. Some children may, for example, use worksheets, while others may be working from a text.

The assignment group work either from individual or group worksheets prepared by their teacher, or sometimes from the blackboard. This is usually work in language or mathematics. The head teacher explained that this work was arranged so that it was simple enough to do without help and difficult enough to keep the children occupied and thinking. This is not always possible, of course, and children come to consult either their own teacher or the assignment teacher for that day. The work is handed in to be marked and points arising are discussed when this group is next in the teaching group. The choice group engage in individual topic studies, group projects, art, woodwork, recreational reading, play-writing, or caring for the animals in the animal bay. Children are, in most cases, given a choice of activity.

Each class has a ' home area ' where the whole class gathers in the morning when various administrative matters such as registration, dinner money, etc, are dealt with. They also meet together at the end of the day. The art/craft area and quiet room are timetabled for use during the week.

This pattern of organisation applies in other clusters too, though with greater flexibility especially with the P2 and P3 children. In their case it has been possible to have two teachers on assignment duties.

The head teacher considers that the children have settled down very well. The older ones, comparing this school with their previous school, say they prefer the new system. They are offered more freedom, not necessarily to run about, but to develop intellectually because of the wider range of activities and the greater resources. They are now used to working in groups. Reflecting on his own experience to date, the head teacher said,

> "I think if I were moving into a similar kind of building I would adopt a similar kind of organisation. A lot depends on the building. You can't say there is a single kind of open-plan organisation. You have to adapt to the building. This particular building has enabled us to develop group teaching to a much greater extent than formerly. Where there are a number of shared resources and facilities then a degree of timetabling and planning is inevitable."

He mentioned that he would like to see more purpose-built areas, such as the art/craft area. At the moment some of these more specialised areas have to double as 'home areas' and this was at times inconvenient. He pointed out that the actual content of the teaching appears to be little different from that of a traditional school:

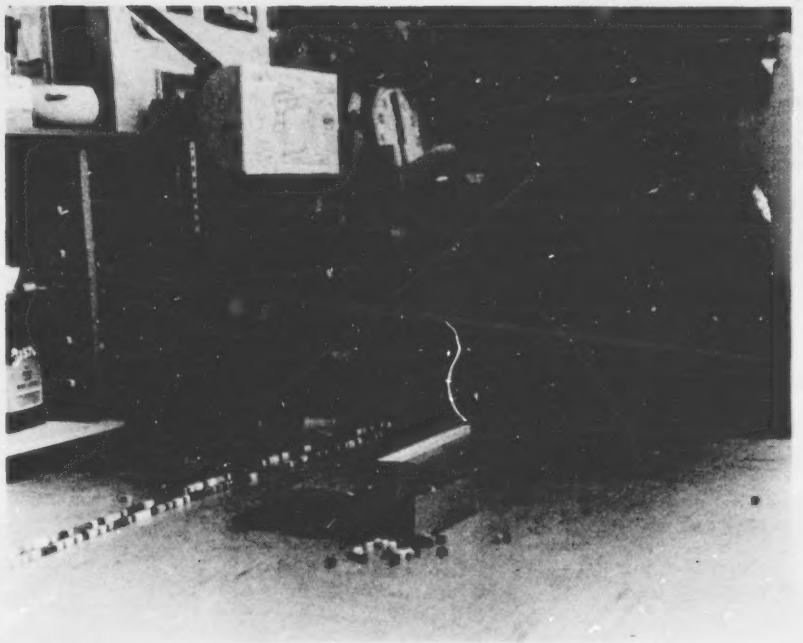
> "Open-plan only describes the building. It doesn't describe the teaching that's taking place inside it."

He considers that the main problem in an open-plan school is continually reminding teachers what exactly it is they are engaged in. He has to ensure that all the resources of the school are fully used. He is concerned about the need to combine some flexibility of operation with a certain amount of management control:

> "Being able to programme the whole thing really efficiently is a real difficulty."

He sees the staff every day, being in all the clusters several times during the day. He makes a point of going into the staff room once each week, but prefers to deal with the different clusters separately and to discuss their problems individually. He is considering the possibility of having regular meetings of himself and promoted staff for more effective policy-making. In discussion he stressed that it is very important that

◀ *Assignment work in the central area.*



*Using the floor space for measurement.*

teachers should be involved in the planning of new schools at an early stage:

> "Too often they are presented with a finished design—too late to make any alterations."

He added that many of the points he was making had now been taken into consideration in designing new schools in the area.

The views of individual teachers are interesting. They stress that in an open-plan school there is more group planning and cooperation among teachers, often of a very informal kind. This is not necessarily detailed planning, but it involves deciding what the general objectives are and keeping within a broad framework. There is a tendency to plan for room and time allocation rather than specific activities. The teachers agree that this, in one sense, places an extra load on them, but argue that they are

compensated for this by the greater feeling of involvement in the whole educational enterprise. This view is perhaps expressed by the following comments from one of the younger teachers who had moved up from the old school.

> " Your thinking has to change. You can get away with a lot in a classroom, but here we're working all day. I like that myself. I feel involved. I don't like being shut away. Some people say they don't like so much mixing and swapping. But if you've got a problem—and who hasn't?— there's always someone about you can talk to. Before, you were shut up in your own room from nine till half-past three and that was it. This is far more sociable. You can help each other out far more. For example, one of the teachers here is away today. We've been able to help look after her children. Things like that, little things, are always cropping up, but they never last for any length of time. It's easier here to fill in any temporary gaps. When I was down at the old school, I was actually teaching in a cloakroom. You could hardly move. Coming up here was like heaven. It's just super all round."

One of the assistant heads had also moved up from the old school. She had spent several years teaching in her own classroom.

> " Suddenly I was heard and seen by everyone. I felt a bit inhibited at first. I quickly got used to it though and now I find I like the contact with other teachers while I'm working. You don't consult quite so quickly or freely with another teacher if you have to open a door, walk along a corridor and then open another door. I wouldn't like to work in a traditional classroom again. I think it's difficult to have different activities going on in a single classroom, for instance, maths and painting. There isn't enough space as a rule."

The teachers feel that the children benefit. They have more space and greater access to material and resources.

> " In a traditional school the reference library might be in a special room. This might mean that one trusted child could go and come back with one book. Here, access is easy. We have the books with us in the unit. Everything is grouped and to hand. There's plenty of variety too."

Teachers have noticed that there is more mixing among the children.

> " When we first came up here from the old school the children from one P7 class wouldn't sit beside children from another P7 class. Now they all sit down happily together."

Another teacher maintained that at first the children had tended to want a lot of help because they were not used to the degree of independence which the new situation involves. This had gradually changed as they got used to acting on their own. It was also pointed out that children, although having their own teacher, came into contact with a number of other teachers in the clusters and could therefore develop a relationship with different teachers. To what extent this actually occurs they found difficult to say precisely, however. The teachers feel that they are able to get to know the children better and attribute this to the extensive use of group methods of working. One teacher had noticed that the children had become more curious and somehow more tolerant since moving up from the old school.

> " They like to see what's going on in other areas and what other children are doing. Sometimes they come back with ideas. They're less inclined to be critical of others, too."

There are problems, as in any school. Most of the teachers are conscious of ' noise ' as a problem. The school, unlike Milltimber, is not carpeted, having vinyl flooring instead. The children change into rubber-soled shoes each morning. Plastic studs on the base of the chairs have gradually worn down, so that chairs tend to scrape. Inevitably, with the numbers in each cluster the sound level is likely to be higher than in a traditional classroom.

*Keeping a general eye on things is easier when there are no walls.*

*Planning to paint in the craft area.*

However, as one teacher remarked,

"You can't expect complete silence all the time. It's a question of what is reasonable and can be tolerated."

Most were prepared to tolerate a reasonable level of ' noise ' for the sake of achieving their educational objectives.

There is a problem of tidiness too.

"When you have as many children as this you have to make a special effort to get them to keep their various bits and pieces in the proper place. At the moment we're trying to organise things on a communal basis, so that instead of having, for instance, 145 pairs of scissors, we just keep 20-30 pairs in one area all the time. This matter of tidiness has been one of the most difficult things to organise."





Another difficulty relates to the use of resources, especially the ' hardware '. The school is well equipped. There is a TV set, tape recorder and record player in each cluster, some of these items having been supplied by the active parent-teacher association. There is also a stone tumbler for lapidary work, several sewing machines and a number of small microscopes. All these are fully used. On the other hand, an overhead projector and a movie projector are not used as much as might be expected perhaps. The head teacher explained that these are heavy and cumbersome items and it is quite a distance from the store room to the clusters and there are several steps to negotiate en route. In addition it is difficult to black out the clusters. There are some overhead roller blinds in the skylights but these are extremely stiff and awkward to operate. He added that, by contrast, the strip projector is regularly used because it is far more portable. He thought that one solution might be to have a separate audio-visual room where a lot of the heavy gear could be permanently installed.

**Milltimber School, Aberdeenshire**

Milltimber is a mainly business and professional community about five miles south-west of the city of Aberdeen. This community has an increasingly cosmopolitan flavour as oil-related industries in the area continue to expand, a pattern reflected in the small but growing number of American, Dutch and English children in the school.

The school is located at the end of a quiet cul-de-sac of privately-owned modern houses and bungalows. Milltimber school is in the clean-lined style much favoured by school architects—single storey, flat roof, split-level, cedar cladding, plenty of windows. It was opened in April 1970. The thinking behind the school was similar to that of Kirkhill.

"Milltimber school . . . has been planned and designed, firstly, to provide the context in which the philosophies and practices advocated in *Primary Education in Scotland* can be implemented in a lively and imaginative manner and, secondly, to come to terms with the vagaries of the Scottish climate in order that young children are at no time denied the physical freedom and exercise which they so naturally seek and constantly require. . . . The total complex in its internal and external layout, in the carefully chosen furniture, fittings and furnishings is designed to provide the maximum freedom and flexibility not only for children and staff as they live and work together, but also for the head teacher and staff in their educational and social thinking, in their corporate planning and integrated practice. Freedom of movement, as basic to the design concept, is everywhere guaranteed by openness and spaciousness, by careful acoustic treatment and by easy flow from one

> teaching area to the next and immediate access from one unit to its neighbour."[1]

The plan on page 5 shows that the school basically comprises five linked units. Three of these units are open-plan teaching areas and a fourth unit is for administrative purposes and dining, although it is also used a great deal for teaching since it contains a stage, and a television set in a storage space at the side of the stage. Full-length curtains allow different areas to be screened off. It is also used in the evening by the local community for meetings, games, and so on, coffee being available from a small servery.

Each of these four units leads directly to the fifth and central unit, known as the games area and used for indoor PE and as a playground in wet weather. Teachers often take small groups in there for discussions, reading and other quiet activities. This central unit is the largest unit in the school. Some idea of its size can be gathered from the fact that it easily contains three badminton courts. The teaching units are slightly smaller than the central unit in area. The unit designed for P1-P3 has a larger actual floor area than those for P4-P5 and P6-P7 because the latter two both include in the same total area a covered outdoor teaching space and an enclosed separate room designated either as a general purpose room or as a library. Just over 80 per cent of the total area of the school is allocated to educational space. Space used solely for circulation is reckoned to be less than 4 per cent.

An increase in the numbers on the roll, especially of infants and juniors, has affected the way in which space is allocated and used. There are now too many children in the P1-P3 range for that unit to hold them all comfortably. The P3 children have therefore moved into the next unit originally designated for P4-P5 children. This unit in turn has lost its P5 children to the remaining unit for P6-P7. This has meant that the P7 children in that unit have had to move into the library and are taught in what is in effect a traditional cellular classroom. The position may be eased if it is possible to enclose the two outdoor teaching areas and thus extend the area of the two units concerned. Economic stringencies suggest this is unlikely, however. The teaching accommodation is now arranged as follows.

| | | |
|---|---|---|
| Unit 1 | P1/P2 | 91 children : 3 teachers |
| Unit 2 | P3/P4 | 86 children : 3 teachers |
| Unit 3 | P5/P6/P7 | 115 children : 4 teachers |

The school roll now stands at just under 300, but with the increase in the number of families with young children moving into the district the pressure on available space is likely to intensify.

The internal design of each teaching unit is similar, the area basically comprising two or three carpeted teaching spaces and a tiled project area shared by all those in the unit. There are no obvious fixed divisions between the different teaching spaces, except for a change in the colour of the wall-to-wall carpets. However, various strategically placed store cupboards, toilets, mobile book trolleys, blackboards, tables and other objects serve to discreetly separate the teaching spaces. Part of the project area is shortly to be carpeted in two of the units and this will reduce the pressure on space to some extent.

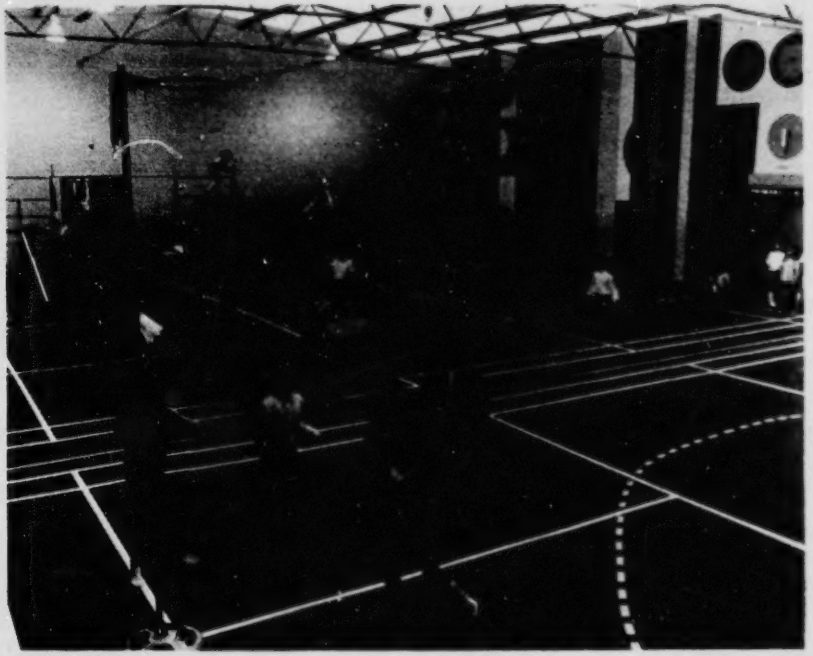
There are individual complaints about some design features of the school—an apparently inefficient heating system for the central unit, storage of children's clothing and bags, book trolleys which fail to hold the books when moved, and so on. Two particular difficulties, mentioned by the headteacher, are the absence of a *central* storage space and the lack of a music room for the tuition of the more than thirty children who receive specialist musical instruction. It would be fair to say, however, that most of the teachers accept that working conditions are good, certainly better than those in many older schools. Their main worry is about the increasing roll, and they are concerned in case the advantages of the open-plan arrangement should be lost through excessive numbers.

How is the teaching and learning organised? The form of school organisation is largely one which has existed since the school started. The school has recently had a change of headteacher and it is therefore difficult to say what pattern of organisation may be adopted in the future. There are ten full-time teachers, including an assistant headteacher with responsibility for infants. There are also nine visiting teachers, about half of whom specialise in musical instruments. The remainder teach art, needlework, and physical education. There are two family group classes, one in the infants' unit and another in the junior unit. All the P5 pupils, about fifty in all, are taught in a cooperative way by two teachers. With the exception of this P5 class, all the other teaching groups in the school are taught by their own teachers in their own areas. One teacher described her teaching in the following way.

> "I usually begin the day talking with the children about something that interests them. Then the children do various assignments in language and number. I usually take different groups for reading during this spell until about the interval. After that we will probably watch TV for about half an hour, then come back to the classroom and finish off assignments. Sometimes we

1 *Building Information Sheet 1. Milltimber School* (Scottish Education Department, 1970)

*Two teachers working together in the same area. A third teacher is with another group in the background. To the rear left is part of the project area, in the centre a storeroom and teacher's desk, and on the right are toilets.* ▶



*Some activities need plenty of space. This is the games area which is also used by the local community.*

might have a short story before dinner. The afternoon is normally given over to creative work such as painting or modelling. If possible this is linked with what the children were doing in the morning. Sometimes the slower ones use part of the afternoon to catch up on their assignments.

"I would not like to think that old-world standards would go completely in an open-plan school. I strive, and I find without a great deal of effort that I'm getting a standard of work from the children which I would have wished from within my own four walls. There is a purpose behind everything they do. I think they have a controlled freedom. They get to know what you expect. There is a certain routine as far as progress is concerned. If they have finished their assignments satisfactorily they are free to do whatever they like, such as build, play with puzzles, dress up, etc.

"We all get on very well in this unit. Occasionally if the children in another class are in an excited mood, there is a lot of noise and this can create problems. You might get this in a traditional school of course. I also tend to get all the comings and goings in this particular area because we are next to the entrance. This means I have to time my children to disperse at the same time as the others, otherwise the noise can be a bit much.



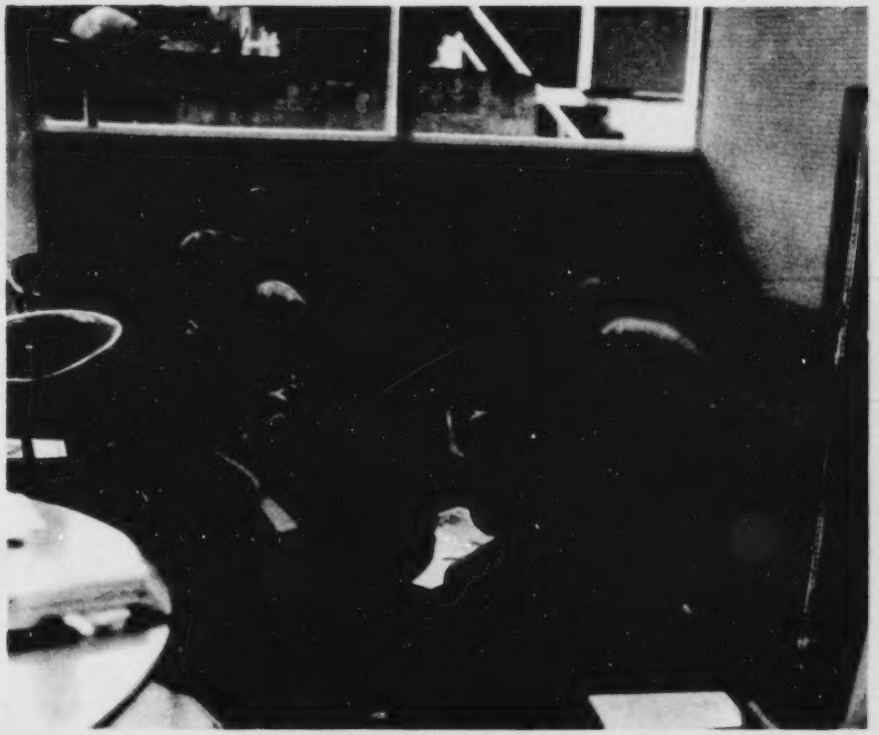
"Space is a terrific advantage but I wouldn't reject a spacious room—that is four walls—provided it had sinks and cupboards and all the other necessary facilities."

Another teacher described the situation in different terms.

"An open-plan school works in a more integrated way automatically because you have far more room. Children know there is somewhere they can go to and take a quiet activity such as painting, working in sand, or something of that kind. Therefore they work in a more independent manner. In a classroom there isn't the same room. You have to reorganise everybody each time someone wants to start something else. These children are used to quite a lot of responsibility at home anyway—they don't like to be mollycoddled. They can move wherever they wish, but to a certain extent they like to come and ask. This gives them a certain confidence and it's also a check on whether they have finished their work or not. I have to move around quite a bit myself. I use this area for reading because you can get everything spread out and when you're finished you don't have to put everything away. For the same reason I use the floor at the other end for maths. In fact I spend almost as much time on the floor as the children. This is the big advantage of carpets, of course. It encourages informality, apart from reducing noise.

"At the moment I spend a lot of time dealing with them all as a class because they are very new to the system. As the year progresses I will spend more time with individual children. By the end of the year there will be very

*Space for early explorations in mathematics.*



*Small group teaching in a quiet corner of the unit.*

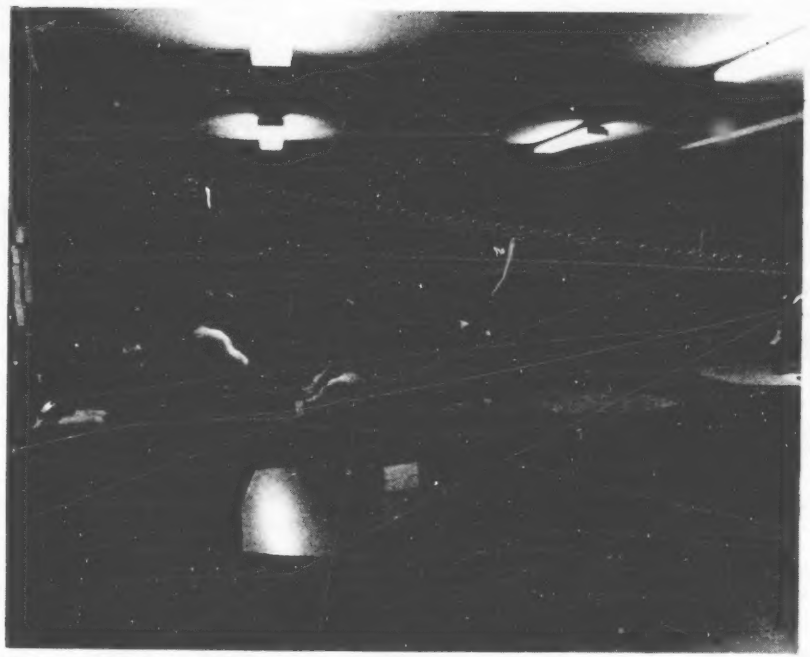
*Individual attention in a teaching area.*

little class teaching. I would never go back to a classroom situation. I moved from a traditional school to come here. I was very interested in coming and trying out this situation. I could see great potential in it. I like having contact with a lot of people. I hate to shut myself away. It's almost as if you had something to hide. It's also interesting that we're not really aware of each other's presence now, we're so used to them being there. It's much easier to discuss things informally with a teacher in the next area. Sharing facilities in the unit is easy too, because you can actually see when they are free to be used by your own children. Another advantage is that if you leave the area for a short spell the children don't notice. In a traditional classroom the children sometimes start to panic if the teacher leaves the room.

"It has its problems of course. You have to be careful not to let your class get too noisy because other classes might suffer. Yes, I love the open-plan arrangement. I could criticise the lack of display surface and storage, but this might be a difficulty in traditional schools too."

The greater ' visibility ' of groups makes itself felt in different ways. Some teachers said that there were occasions when they had tended to avoid certain activities on the grounds that these might have disturbed another group in the area. However, one or two teachers had found some difficulty in carrying out some activities because of the presence of other groups.

"There are moments when you would like a quiet time. Perhaps someone has brought up something very interesting, but you can't discuss it very easily because there's a hub-bub coming from another class. Or you might like to sing a song with your class but you have to think of the other classes."



*Rehearsal in the dining/stage area.*

These occasions were agreed to be fairly infrequent, however. It should also be added that very few teachers mentioned this particular aspect of ' visibility '. Most were inclined to be more positive in their views. They recognised that there were problems involved in teaching in the same area, but thought that the increased openness gave greater opportunities for consultation with colleagues. In this way day-to-day difficulties could be dealt with flexibly and quickly. Teachers also stressed that the ' visibility ' of the open-plan situation helped them both to give and receive ideas for different aspects of their work more easily than perhaps may be the case in the enclosed classroom. As one teacher expressed it,

> " This is because you can *see* what other teachers are doing."

One of the two teachers jointly responsible for teaching a group of about fifty older children described the way in which she and her colleague organised their work:

> " We work as a team of two in this area. We do formal English twice a week and maths every day. There are five different groups here in approximate order of ability. I have three of the groups for maths. We share all the groups for English and project work, however. Next term we'll probably change groups. This means that we get to know all the children. There's very little whole-class teaching, but we try to bring them all together at the beginning and end of the day.
>
> " Apart from the maths groups we share everything else down to the pencils. We also share responsibility. Any little crisis that comes to the school we don't seem to be quite as affected as the rest of the staff.
>
> " We are jointly responsible for all the children and encourage them to come to either one of us. Most of them will go to the first one they see, but a few tend to go only to one or the other. The children have two teachers they can turn to and therefore there are two opinions about each child. It's also interesting that where there are two adults either giving praise or reproving a child this seems to have a deeper effect, though I don't know why this should be so.
>
> " Although I think we work successfully I'm not sure I'd advocate it for everyone. We happen to get on well, though sometimes we still both feel we would like our own class."

Other groups of older children are taught separately. The teachers concerned have had considerable experience of teaching. They came to

*Craft work to music. The children in the foreground are in the teaching area; those in the background are in the project area.* ▶

the school when it opened. One teacher explained that she had come from a country school which was fairly new though not open-plan. She said that the staff of this school had tried to use it in as open a way as possible.

> "They opened the doors of their classrooms and used every inch of space. I enjoyed it so much that I applied to come here when it opened. I like the space. I think it gives the children more confidence and self-discipline than the traditional building which requires an imposed discipline. I think it gives teachers the freedom to do the kinds of things they want to do. Many different activities can go on at the same time because of the space.
>
> "You get ideas from working in the same area as other teachers. They can also look after each other's children in case of temporary absence. I am rather worried about the overcrowding though. There's no point in having open-plan if you pack them in.
>
> "People think that in open-plan schools children are drifting around here, there, and everywhere. I don't like them drifting out of sight. I'm fairly strict at the beginning but once they develop self-discipline I gradually lift the restrictions."

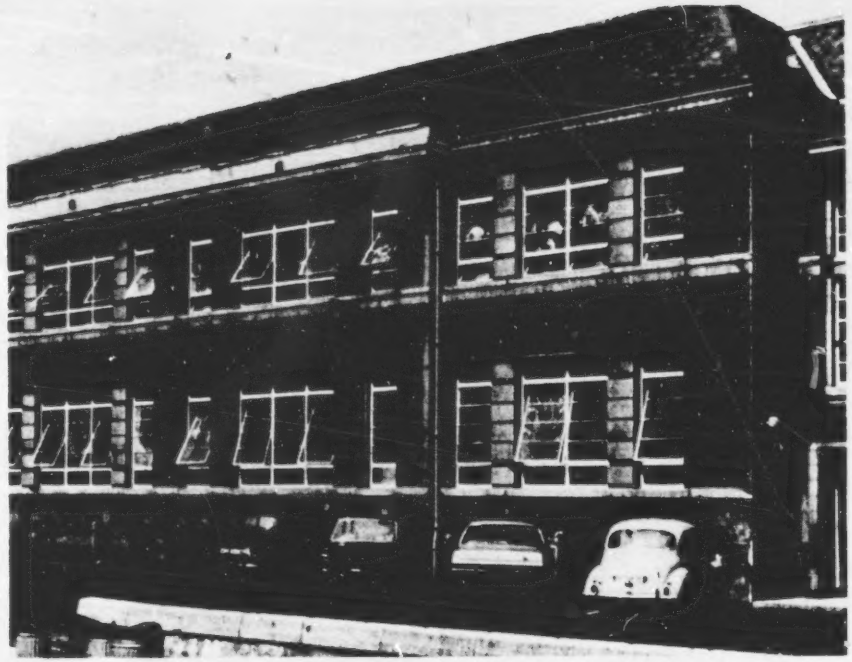
Another teacher in this unit was also very much in favour of the open-plan arrangement.

> "It suits me. I don't like being shut up in a classroom with 30 children. It has a bad effect on the personality of the teacher, I think. I prefer to have contact with other teachers. I think I've learned more about teachers and teaching since I came to this school. We had tremendous problems of organisation when the school started. It was new, it was open-plan, and there hadn't been a school in the Milltimber district before. We all had to help each other. The sheer openness of the building helped us all to discuss our problems more easily.
>
> "There isn't much difference in teaching methods from a traditional school. If you are temperamentally unsuited, if you need the security of four walls, then working in an open-plan school could be a problem for you. But there are lots of other problems in teaching; whether you have four walls or not is only one of them. You're always solving problems if you're a teacher. School life is like this all the time."

**Trinity School, Hawick**

Milltimber and Dean Park are both modern open-plan primary schools. They have been purpose-built. Trinity School in Hawick, on the other hand, was built in 1934, and, by comparison with the other two schools, is a gaunt, barrack-like, two-storey building, perhaps typical of the schools then being constructed. It is tucked away at the end of a streetful of dark tenements close to an assortment of woollen mills, warehouses and downtown garages.





*Trinity school from the outside.*

The present head teacher arrived at the school in 1969. He had been teaching in the district in a similar school, but had felt that the cellular school, by its design, created problems of resource utilisation and staffing. He thought that by combining classes these problems would be alleviated, and that this would also provide an opportunity for cooperative forms of teaching. He had also visited a number of open-plan schools south of the Border, and had become convinced that if the school was to achieve its objectives the building had to be opened up. The school had originally been designed for 280 children when it was first put up in the 'thirties but the roll had increased well beyond that figure. It now stands at 370. This was a further compelling reason for increasing the amount of space available for teaching.

The Director of Education and the Primary Adviser supported his ideas and the authority's architects were persuaded to prepare plans for the conversion of Trinity School. Most of the modifications made have

been at the suggestion of the head.

In the last two or three years the interior of the school has been gradually but radically altered. The general method has been either to remove completely the dividing walls between the former cellular classrooms or to remove them only partially, and simultaneously to bring the corridor space into use by widening the entrances between the classrooms and corridors. Three units have been created in this way with slight variations among them. All the children up to and including P5 are now in one or other of these three units. The P6 and P7 children are being taught in temporary classrooms in the playground, but, finances permitting, it is hoped shortly to convert the remaining part of the school for them. All the ground floor classrooms have been converted and also all the first-floor classrooms with one exception. At the moment there is no general purposes room, a room normally used for medical inspections being used for this purpose. The school clearly has some way to go before it can be said to be fully adapted to an open-plan design. Apart from those classrooms already described the school fabric is much the same as it always has been. The stone stairs and the regulation dull green paintwork are constant reminders of the past.

The teaching accommodation is arranged as follows:

| | | |
|---|---|---|
| Unit 1 | P1/P2 | 104 children : 4 teachers |
| Unit 2 | P3 | 64 children : 2 teachers |
| Unit 3 | P4/P5 | 103 children : 4 teachers |
| Temporary accommodation | P6/P7 | 100 children : 3 teachers |

Of the thirteen teachers, two are assistant heads. Another is a remedial teacher working in unit 3, but available for all the children except these in P1 and P2. In addition, there are two visiting specialists for PE and art respectively and four visiting music teachers specialising in different wind and stringed instruments.

From the beginning of next session (1974/75) the present arrangements for using the accommodation will be revised. The present unit 2 will be used for P1 children only, and will be staffed by the assistant headteacher (infants) and another teacher. The present unit 1 will be used for P2 and P3 with four teachers. Since the present unit 2 is the least open of all the units this reallocation of accommodation represents a change of policy with the purpose of placing pupils in increasingly open accommodation as they get older.

The children now in unit 1 are divided into three family groups of around thirty each. In addition there is a smaller group of about fifteen

*Part of one of the units showing how space has been created by partially removing the wall between the former classrooms.*

younger children who have various difficulties relating to speech, emotional development and general learning. These children are in the care of one of the assistant heads.

The space in unit 1 is divided into three main areas—an area for mathematics, an area for language work and an area for ' activities '. This latter area comprises what used to be the original corridor plus two adjoining rooms. Painting, sand play, modelling, etc, are carried on in the ' corridor ' while the two rooms are used for singing, TV, climbing, interest centres, etc. The small group of fifteen use a fourth area in the main unit, although it is also used at times by the other groups. It should be added, perhaps, that the original wooden floors have been kept, although there are some domestic-type carpets in strategic positions in each of the areas.

*Corridors have been converted for educational uses rather than being used solely for circulation.*

24

The morning is largely devoted to language and mathematics work, each teacher being responsible for her own group. The emphasis is on small group methods which means that children alternate between direct teaching and assignment work or activities of different kinds. Except for times occupied by TV/radio broadcasts and visiting specialists, the morning is usually arranged so that at the end of a block of about forty minutes there is a change of activity and location. This unit of time is, in practice, interpreted fairly flexibly, however. Those children who have been doing mathematics, for instance, move with their teacher on to the language area. Each class starts in a different area each week thus completing the cycle of rotation once every three weeks.

On Monday and Tuesday afternoons the four teachers take groups of children drawn from all the classes for handwork, percussion, painting/modelling, environmental studies, each teacher specialising in one of these activities. Thus, over a two week period, each group of children experiences each activity. There is usually a story or singing on these days also, when the children form two groups, each taken by one teacher. On Fridays two teachers take the children, often in the hall, for a film, a story, play-acting, singing, poetry, or some similar activity. This means that each teacher other than the assistant head has one ' free ' afternoon per week. This time is used for preparation and assessment.

Four girls from a ' non-certificate ' group in the local secondary school come along on two afternoons a week to help with the five-year-olds in this unit. The teachers have found this to be a most valuable experiment both from the point of view of the children and that of the girls themselves.

The teachers agree that this system might appear to be rather too structured, especially for infants, but say that in practice it is operated flexibly. It is their impression that minor and continual adjustments to the basic framework can be made more easily in an open-plan situation. In the early days the teachers had tended to concentrate on different areas of the curriculum but this had led to a feeling that they were becoming unduly specialised. Accordingly they now have more direct contact with their own groups of children. One teacher considers that the next step might be to increase the range of children with whom the teacher comes into contact, while still retaining a generalist approach. The teachers have no wish to go back to a traditional classroom. They recognise the problems involved in operating the open-plan arrangement, but believe that the openness permits them to develop solutions to those problems.

Unit 2 is the least open of the three units, for the centre wall between two classrooms has been only partially removed and the two

*A discussion in a corner of the infants unit.*

areas designated for English and mathematics projects respectively. There is no overspill into the corridor with this unit, which has two classes—a family group of 35 P2/P3 children and another of 29 P3 children. Each is taught by one teacher, though they come together for TV, singing, etc. A feature of this unit is that the two teachers exchange classes every two weeks.

The most open unit is unit 3 on the first floor. The unit has been adapted from the original four classrooms. The two inner classrooms have been converted into one large area with space for about fifty children, while the two outer classrooms have been linked to this area by removing nearly half the wall.

There are thus three main areas with the central area being approximately double the area of the other two. In addition, the unit opens directly on to the ' corridor ' which is now used for painting, etc. The two smaller areas are used for mathematics and project work, while





the larger central area is used for language/arts. The mathematics area is however the only area which is strictly reserved for one purpose only. A library and a semi-enclosed remedial teaching corner are also contained in the unit.

There are four teachers, including an assistant head, in this unit, having responsibility for 103 children from P4 and P5. The two year groups are taught separately for basic skill work in mathematics and language, though in mixed ability groups. The children move from area to area at various times in the morning, spending 45-90 minutes on each activity. In this unit the teachers specialise in an area of the curriculum to a greater extent than is the case in the other units. In the mornings one teacher specialises in mathematics teaching, another in project and reference work and another in language/arts. The children move from one teacher to another and from one area to another, the teachers remaining in the different curriculum areas. At the time of writing, this system has been in operation for one term, but the teachers will probably change their area of the curriculum each term. It is possible that the change-over may in the future be at more frequent intervals, say every half-term or even monthly, depending on the experience gained in using the system. It might be added that the teacher specialising in language/arts in the large central area does not find it difficult to cope with two groups of around fifty children. The children do not have their own teacher. For registration P4 go to one end, P5 to the other. Neither are there any home areas. The assistant head in charge of the unit saw the situation like this.

> " The only thing that worries me about it at present is the degree of specialisation by the individual teacher. Some people might not agree with that but the teachers are satisfied because they know it isn't specialisation for the whole year. Within the session they get a chance to work in every area. In any case this system only operates in the morning. For the afternoons a different system is used. For three afternoons we each take one of the four groups. It's at the teacher's discretion what she does with the children. This might be extra work on the ' basics ' or it might be discussions of stories, nature study, health education and so on. The other two afternoons we use for music lessons, music broadcasts, arts technique lessons, PE, free activity time, etc. We change groups about every six weeks.
>
> " With the space we have here it's important to have some timetabling. We have to timetable the large central area in order to use it to advantage and this means timetabling other activities too, almost by definition. The timetabling doesn't bother us at all, and in practice there's a certain amount of flexibility. If there's not enough time to finish something, then you arrange informally with the other teacher to complete the work in the afternoon."

The assistant head considers that the children benefit from this system. It was not impossible, she said, for a child to identify with one individual teacher.

"Children will identify with one person not because they've had them longer or because that person is always standing in front of them all day long. Each child in this unit is taught by four different teachers. This gives them a wider range of adults to talk with. I find the children more adaptable and they're also more interested in each other's work. They're moving about, you see, and though they're not actually involved they do get interested. We find the children from traditional classrooms are much more dependent and have to be trained to do things for themselves. (The P4 children in this unit were in a traditional classroom the previous year before unit 2 was built.) With 103 children they're seeing quite a range of work. I also think the children are far more relaxed and happy. There's a good community atmosphere in the place."

This teacher had previously taught for seven years in traditional schools and admitted that she was becoming set in her ways before she came to the open-plan situation. She saw cooperation among teachers as being crucial to the success of open-plan schools.

"There are times when you have to give in a little. You have to accept that there are always alternatives. This is good for teachers, I think—having to work with other adults instead of being the king of all they survey. Mind you, this arrangement suits us, but it might not suit everyone. We are always asking each other, 'Are you happy? What problems have you got?' No complaints so far. We meet formally once a month as a group, and occasionally at lunchtime. But because I'm free at certain times of the day a lot of things can be sorted out on my way round. I usually draw up an agenda. Staff write down points, too. Then we just go through the agenda, discuss the various points and make decisions about them."

She stresses that there is not a 'noise problem'. Indeed, she adds that there are times when there is almost complete silence in the unit.

"There may be a lot of other people working together but you've got to get on and do your work. There's no slackness of discipline just because this is a big open space. I think there's more discipline really. I also think it's very difficult to train people for a situation like this. You've really got to get into it and 'work at' it."

A young teacher in the unit supported these views. He had found the cooperative relationships among the teachers had helped him to get over the initial difficulties of teaching young children. This is just as well perhaps, since he also commented on the lack of preparation, in his pre-service training course, for teaching in open-plan schools. He thought too that some teachers are suspicious of open-plan schools, but that there is a new generation of teachers coming along who are more open to new ideas.

An unusual feature of unit 3 is the remedial corner. This is a small area in the corner of the large central area. It is separated from the rest

*Part of unit 3 showing an informal discussion in progress while other children are working in the background.*

of the unit by dividing screens, about five feet in height. Entrance is from the 'corridor'. This degree of separation is felt to be about right. The corner is not isolated from the rest of the work going on in the unit, but it has sufficient privacy necessary for the teaching, normally in groups of 4-5.

The remedial teacher has taught at the school for about four years, so that she is no stranger to the children. There was however no remedial teacher at the school until about eighteen months ago when she volunteered for the job. It was decided then to set up a remedial corner in one of the units so that the children would not feel they were being sent to a special room. Children in need of remedial teaching from all the year

groups go to the remedial corner, with the exception of those in P1 and P2. They know what time to go, and often detach themselves from their units and go to the corner. At the end of the time there, they return independently to the units. There is little or no interruption to the normal school routine. The remedial teacher does, however, try to plan the work so that there can be some follow-up by the children's own teachers. Six groups attend the corner each day, the same children coming each day. The remedial teacher herself maintains links with the rest of the school by coming out of the corner once a week to do some work in art with a mixed group of P4 and P5 children.

This strategy for the organisation of the remedial teaching seems to be paying off. There is no stigma attached to going to the corner. Indeed, the children, even those not in need of remedial teaching, are very keen to go and obviously enjoy being there.

The corner is full of interest for children. At the entrance, the day's ' password ' is pinned up. The children read it and say it as they go in. There is a project table, games and puzzles, books, a typewriter, drawings, plasticine, stories and poems written by the children, ' Altair ' designs, mobiles, a cassette recorder and headphones, reading machines, reference graphs, and a corner for quiet reading. The teacher tries to build up a variety of materials and books for the children to work with. She mentioned that it was interesting how the more elaborate materials failed to keep the children's attention.

> " It's the simple and unexpected things that I've found successful. Last year we cut a cardboard box up to make an imitation TV set. The children spend hours in there, reading—they think they are on TV. Even the bright children in the unit come along and use it. It was done on the spur of the moment really. Our home-made reading machines with the children's stories on paper rolls have also gone down well. The typewriter is a great incentive, especially for the older children, who get a bit sickened with reading failure."

She encourages parents to visit the corner when a child first starts coming because she feels that many parents may get worried once they know their child is receiving remedial attention.

> " They seem quite relieved when they see that this corner is really part of the unit."

She also is in favour of the open-plan situation, expressing similar views to teachers in this and the other schools.

The headteacher particularly stressed the need in an open-plan school to encourage the children to develop a feeling of ' belonging ' and sense of responsibility to the school. All children have access to the units from 08.30 onwards so that they can read, or do craft work, or talk, even

*Part of the reading corner.*

though the teachers may not be present. An auxiliary member of staff is there to welcome the children, get them changed, take lunch money and so on. Equipment is freely available to the children at all times. The head noted that most of the children had taken this responsibility seriously and that this was reflected in their favourable attitudes to the school.

# What Next?

" Open-plan only describes the building. It doesn't describe the teaching that's taking place inside it."

One swallow does not make a summer; one day in a school does not constitute a research report. It would be mistaken therefore to draw any firm conclusions on the basis of this very limited study. The value lies rather in suggesting points for discussion and further inquiry.

Open-plan schools can be seen as facilitating a movement towards a greater degree of flexibility and variety in the organisation of teaching and learning at the primary stage. This movement derives its impetus from a belief that teaching and learning should be arranged so as to help each individual child to explore and develop his or her personal resources for the interpretation and organisation of experience of the world. By their design open-plan schools are intended to provide a context in which teachers can exercise a wider range of options in their methods than might be the case within the four walls of a classroom. It does not of course follow from this that teachers in the traditional classroom are not using a variety of methods. Nor does it follow that the provision of a school building designed on open-plan lines automatically guarantees flexibility and variety in the organisation of teaching and learning.

An important and perhaps central difference between open-plan and cellular schools is that teaching in the former type of school is dependent to a greater extent on the way in which it is organised among groups of teachers. The teacher in an open-plan school is, in other words, more aware that she is part of a working group than might be the case in a cellular school. This situation arises from the design of the open-plan school in which relatively large numbers of children and groups of teachers share, to a greater or lesser degree, available space and resources.

This would seem to be true of all three schools visited, although they varied in internal design and were developing different forms of organisation. In the open-plan situation teachers can see, and be seen by, other teachers in their work. This greater ' visibility ' seemed to be





welcomed by the teachers in these schools. Very few expressed any wish to return to the four walls of a classroom, and most were positively in favour of their work relationships. It was accepted that problems could arise in these circumstances, but the view seemed to be taken that the open-plan arrangement encouraged the development of informal patterns of support among teachers. This mutual support in turn created a context in which task-related problems became apparent at an early stage. The teachers felt that problems could then be dealt with on a group basis before they became too insistent or pervasive. Some teachers also mentioned that they had found difficulty in getting used to working in the open-plan situation, but the knowledge that other teachers were close at hand seemed to help them overcome these initial difficulties. An interesting comment, made in different form by different teachers, related to the way in which temporary problems could be quickly and easily dealt with. For example, in cases of absence of a teacher, groups of children could be either absorbed in other groups or generally supervised by other teachers.

Apart from the informal and frequent discussions which were held during the course of the day, there was evidence of more formalised planning and cooperation among teachers. This was most apparent where there was a sharing of different teaching tasks and resources. In some cases meetings with agenda were held at regular intervals. To what extent planning in the units was concerned with the aims and content of the educational process was not clear however. It is possible that much of the planning which does take place is concerned with the way in which shared resources and tasks should be organised, rather than with a review of objectives. In this respect several teachers referred to what they called ' structuring ', particularly in the allocation of time, shared resources and in the organisation of children's learning activities. There was reference in some instances to ' controlled freedom ' and ' routine ' for children, though it is hard to know exactly what these and similar phrases might mean in practice.

The increased ' visibility ' of teachers in open-plan schools does not, on this evidence, appear to inhibit teachers in the development of new methods. The reverse seemed to be the case, many teachers saying that they gained fresh insights and ideas from seeing what other teachers were doing, although it was not possible to discover the precise extent to which these were actually put into effect. Whether the rate of educational innovation increases in open-plan schools is certainly an important question.

It might be argued that only certain kinds of teachers are likely to be

successful in open-plan schools, and it is certainly true that one or two teachers in this study suggested that the personality of the teacher was an important factor in this respect. There is however no reason to suppose that the teachers in these schools are markedly different from their colleagues in more traditional schools. Although a number of the teachers had been attracted specifically to the idea of working in open-plan schools, others had taken up posts with apparently little prior commitment to the thinking behind open-plan schools or even without much knowledge of such schools. The high proportion of married women teachers in the schools visited suggests that practical and domestic considerations were important reasons for joining the staff of the schools. If this assumption is correct, one would not expect them to be untypical of primary teachers in Scotland. It may be relevant in this context to quote an extract from a study of English ' progressive ' primaries.

> " The skills required to teach effectively this way often leads observers to suggest that it is only exceptional teachers who can survive. This is not so. The great majority involved . . . are not exceptional teachers. They are, rather, a mixed group—supported by a practical and philosophical framework and themselves encouraged to develop as people. If they are dramatically different from their more formal colleagues it is not in training or intellectual gifts, but rather in the way they order their priorities. . . . In short, the total school environment makes possible the maximum use of the teachers' abilities as well as those of the children. In this way quite ordinary individuals become what appear to be extraordinary teachers when compared to those functioning in traditional settings."[1]

This would suggest that to think only in terms of the ' personality ' of the teacher may not be particularly helpful in evaluating the success of open-plan schools. What appears to be equally, if not more, significant is how teachers actually think about the education of young children and the way in which these views can be influenced by specific situations.

In a short descriptive study many questions are inevitably left unanswered. It was not possible, for example, to examine the effects of the open-plan situation on the children. This would clearly involve a lengthy and complex investigation in any case. It should be noted, however, that teachers generally thought that the social effects were beneficial, in particular mentioning the greater cooperation and tolerance they had noticed among the children, and their increased self-discipline and independence.

There may therefore be a need for a programme of research and development which could be designed to help open-plan schools to achieve their objectives. If, as present trends suggest, more open-plan primary schools are designed and constructed, then the need for such a programme would appear to be particularly strong.

An important part of that research and development programme would be to study carefully the range of options which are available to open-plan schools in the ways that teaching and learning are organised, and the most effective means of making the best use of different options. This would need to be done in close cooperation with the schools. The relationship between different patterns of working among groups of teachers and the use of space, time, and other resources would be of special interest. An essential part of the programme would also involve detailed studies of children in open-plan situations.

There is a good deal of interest in open-plan primary schools in all parts of the Scottish educational service. There is also some evidence of a need for more information on the subject. Indeed, it is hoped that this booklet has helped in this respect. One suggestion, from a teacher, was for a bank of videotapes and/or films to be made about open-plan schools. These could be made available to schools, colleges, and teachers' centres to illustrate the applications of different forms of open-plan organisation. A system could also be set up to help teachers send and receive information about open-plan schooling.

These are only suggestions, however, and clearly need further examination. What does seem vitally important is that the advance of open-plan primary schools in Scotland should be informed by a programme of systematic research and development closely integrated with the actual practice in the schools.

It is clear that the successful exploitation of the possibilities offered by open-plan primary schools has required, and will continue to require, sustained effort and imagination. The last word is left to one of the teachers.

> " I thoroughly enjoy working in the open-plan situation. There's a lot more cooperation among teachers here than in a traditional school. You have to think carefully about everything you do, because you're not just doing things to please yourself and the head. There are other teachers to be considered too. You have to know why you're doing something, when you're going to do it and what's going to be needed. It's got to be ' worked at '."

1 *British Primary Schools Today, Vol 3* (Macmillan, 1972)

# Further Reading

There are a number of books, articles and reports dealing with primary school design and organisation. Some have been quoted in different sections of this booklet. The following list is a further selection which may be helpful to readers wishing to read about particular aspects in greater detail. The list does not claim to be a comprehensive bibliography. References are arranged in alphabetical order by name of author or institution.


Beynon, J (1972): ' Accommodating the education revolution ', *Prospects*, Vol 2, No 1.
This issue of the UNESCO quarterly review of education contains a series of articles on architecture and educational space by international contributors. The opening article by the Head of School Buildings Section, Department of Educational Planning and Financing, UNESCO, outlines some of the main reasons for change in school design.

British Broadcasting Corporation (1974): *Early Years at School*.
Designed to accompany a series of television and radio programmes for teachers, this readable booklet contains a wide range of contributions. There is a section entitled ' Organisation for openness ' by David Grugeon.

*British Primary Schools Today*, (1972). Macmillan.
This series of books in three volumes was prepared by the Anglo-American Primary Education Project under the aegis of the Schools Council and supported by the Ford Foundation. Vol 2 contains valuable discussions by Richard Palmer on space, time and grouping, and by Eric Pearson on school design.

Brown, M, and Precious, N, (1968): *The Integrated Day in the Primary School*. Ward Lock Educational.
A book written jointly by the headmistress of an infant school and the headmaster of a junior school in Leicestershire. Both schools, although separate buildings, are on the same campus and are of open-plan design. The book describes in some detail how the ' integrated day ' method was introduced and developed in the schools.





*Built Environment* (1972), Vol 1, No 2 (May).
This is a specialist journal for architects and planners, but the May 1972 issue contains a number of articles on primary schools. Amongst these is a discussion of the cost implications by Alan Little. There is also a staff article on external and internal design problems and solutions.

Central Advisory Council for Education (England) (1967): *Children and Their Primary Schools*. HMSO.
Chapter 20 (How primary schools are organised) and chapter 28 (Primary school buildings and equipment) are particularly relevant.

Department of Education and Science (1967): *Building Bulletin 36*, Eveline Lowe School. HMSO.
This describes the development and planning of an open-plan primary school in Southwark, south-east London, and includes sections on the organisation of the school, its furniture, and cost analysis.

Department of Education and Science (1972): *Building Bulletin 47*, Eveline Lowe School Appraisal. HMSO.
This describes how the building had enabled educational objectives to be achieved in practice. (There are several other booklets in the Building Bulletin series. Numbers 16, 21, 23 and 48 are perhaps the most relevant.)

Department of Education and Science (1972): Education Survey 16. *Open-plan Primary Schools*. HMSO.
A short pamphlet reporting on visits made by a team of HM Inspectors to fifty-three English open-plan primaries. It concludes with a number of recommendations concerning the staffing, teaching methods, assessment procedures, and accommodation.

Educational Institute of Scotland (1972): *The Open-plan Primary School*.
A brief report by members of the Education Committee of the EIS who visited Milltimber, The Hillocks and Dean Park primary schools. It was generally found that teachers enjoyed working in these schools though they would prefer more quiet areas to be provided. Recommendations included greater emphasis on pre-service and in-service training for working in open-plan schools.

Kogan, M (1971): ' English primary schools—a model of institutional innovation? ' *Educational Planning in Perspective*, Green, T (ed). Futures/IPC Science and Technology Press.
Professor Kogan describes how enthusiasm for British primary methods has spread to north America but argues that the ' model ' of innovation is not easily transferable.

Manning, P (1967): *The Primary School: An Environment for Education.* Liverpool University Press.
Prepared by the Pilkington Research Unit, this is a detailed evaluation of the architectural and educational features of thirteen different modern primary schools. It also contains an extensive analysis of the architectural problems of designing schools and a useful historical account of the associated educational philosophies.

Mason, S C (ed) (1970): *In Our Experience.* Longman.
This is a collection of personal accounts by Leicestershire teachers of their schools. Amongst these is a description of the organisation of infants in an open-plan school. The first chapter deals with the general development of open-plan design in Leicestershire schools.

Musgrove, F (1971): *Patterns of Power and Authority in English Education.* Methuen.
Chapter 5 of this book, by a sociologist, contains a critical view of the current trend towards increased openness in school design.

Ontario Institute for Studies in Education (1973): *Open Education: An Annotated Bibliography.*
This is a helpful book list with fifty-eight references, mainly to US or Canadian sources.

Rathbone, C H (1972): ' Examining the open education classroom ', *School Review* (August).
A lengthy article by a leading American writer on the theory and practice of open education. He discusses in particular the organisation of space, time, grouping and instruction. This leads him to argue for more precise specification of objectives, to question the ' appropriateness ' of open education for all children and to consider the issue of evaluation. There is a full bibliography.

Scottish Education Department (1971): *Primary Education: Organisation for Development.* HMSO.
This is a progress report issued as a follow-up to the 1965 memorandum, *Primary Education in Scotland.* It does not survey the state of primary education as such, but is more concerned with the in-service training of teachers and heads. It makes the point that the effective use of a new school depends on good facilities and resources, and on adequate preparation of staff.

Seaborne, M (1971): *Primary School Design.* Routledge and Kegan Paul.
A useful introductory book, showing how primary school design has changed over the years as a result of social, technological and educational influences.

Study of Educational Facilities (1972): *Annotated Bibliography of Research in Open-plan Schools.* Metro Toronto School Board.
This bibliography covers thirty-three US and Canadian research studies. It sets out clearly the samples, methods and results, and there is also extensive cross-referencing. It should be emphasised, however, that the studies reviewed are only a selection.

SCOTTISH COUNCIL FOR RESEARCH IN EDUCATION

With so many new schools being built employing open-plan designs, increasing numbers of teachers are learning how to adapt themselves to new teaching environments. It is important that teachers about to start working in open-plan schools should have the advantage of the experience of those already working in such schools, and that teachers working in these schools should be able to share their ideas and experience. In this booklet the experience of teachers in three schools, varying considerably in design, is made available to other teachers.

Price 85p